UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA	:	
-v.-	:	S3 22 Cr. 19 (PGG)
WILLIAM WEINER and ARTHUR BOGORAZ,	:	
Defendants.	:	

GOVERNMENT'S MOTION *IN LIMINE* TO EXCLUDE TESTIMONY BY DR. BRYAN PUKENAS UNDER RULE 702 OF THE FEDERAL RULES OF EVIDENCE

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PRELIMINARY STATEMENT

The Government respectfully files this motion: (1) to preclude Dr. Pukenas from opining that Dr. Weiner did not engage in overreporting or exaggerating findings because Dr. Pukenas' methodology is flawed; (2) to preclude Dr. Pukenas from opining that his level of disagreement with Dr. Weiner "was consistent with that which is reported in the literature and in line with [his] own experience as a practitioner" because he has failed to show his opinion is the product of product of reliable principles and methods; (3) to preclude Dr. Pukenas from opining that Dr. Coyne did not review so-called "clinical data" as part of his analysis; (4) to preclude Dr. Pukenas from opining about an unvalidated method of diagnosing herniations; (5) to preclude Dr. Pukenas from opining about irrelevant stylistic disagreements with Dr. Coyne; (6) to preclude Dr. Pukenas from opining about irrelevant stylistic differences between radiologists generally; (7) to preclude Dr. Pukenas from mischaracterizing Dr. Coyne's testimony; and (8) to preclude Dr. Pukenas from speculating about Dr. Weiner's motivations for incorrectly identifying injuries.

FACTUAL BACKGROUND

On or about April 13, 2022, the Government produced to defense counsel a 24-page expert report by Dr. Scott Coyne setting forth his expert conclusions as to 40 randomly selected MRI studies conducted by Dr. Weiner (the "Initial Report"). The Initial Report methodically provides an opinion as to each of the 40 MRI studies and offers several conclusions grounded in these studies, including that Dr. Weiner systematically falsified herniations in MRI reports. Thereafter, on or about November 15, 2022, the Government produced to defense counsel a supplemental 33-page expert report by Dr. Coyne setting forth his expert conclusions as to approximately 53 additional randomly selected MRI studies conducted by Dr. Weiner (the

"Supplemental Report").[1] Like the Initial Report, the Supplemental Report methodically provides an opinion as to each of the 53 MRI studies and offers several conclusions grounded in these studies, including that Dr. Weiner systematically falsified herniations in MRI reports.

On December 22, 2023, over a year after receiving the Supplemental Report and less than one month before trial, Weiner's counsel produced a six-page expert report by Dr. Bryan Pukenas (the "Pukenas Report").[2] Unlike Dr. Coyne's nearly 60 pages of expert reports, which methodically set forth his opinions as to each of the approximately 100 MRIs at issue, the 6-page Pukenas Report does not do so for a single patient.

RELEVANT LAW

Federal Rule of Evidence 702 provides:

> If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.
> Fed. R. Evid. 702.

The Supreme Court has defined the role of the district court as that of a gatekeeper charged with the task of deciding whether an expert's scientific testimony satisfies Rule 702's general requirements of reliability and relevance. *See Daubert v. Merrell Dow Pharm., Inc.,* 509 U.S. 579, 597 (1993). Originally intended to screen out "junk science," *Daubert* has been extended to apply to both technical and other specialized expert evidence as well. *See Kumho Tire Co. v. Carmichael,* 526 U.S. 137 (1999) (technical or other specialized knowledge); *Brooks*

[1] As Dr. Coyne notes, one of the MRI reports was missing part of the scan. In addition, Dr. Coyne reread 6 studies that were previously covered in the Initial Report (and came to the same conclusions). Thus, the total additional studies in the Supplemental Report is approximately 53.
[2] The remainder of the disclosure sent to the document consists of nearly 23 pages of resume and a list of prior expert testimony.

v. Outboard Marine Corp., 234 F.3d 89, 91 (2d Cir.2000). In December 2000, Rule 702 was amended to incorporate *Daubert*'s formulation of the gatekeeping task: the district court must make certain that "(1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case." Fed. R. Evid. 702. The proponent of the evidence must establish admissibility under Rule 104(a) by a preponderance of the proof. *See Bourjaily v. United States,* 483 U.S. 171, 175–76 (1987).

The trial judge's gatekeeping task under Rule 702 and *Daubert* is two-fold: the court must determine whether the evidence "both rests on a reliable foundation and is relevant to the task at hand." *Daubert,* 509 U.S. at 597; *United States v. Marji,* 158 F.3d 60, 62 (2d Cir.1998). To assist with the first task of assessing the reliability of expert testimony, *Daubert* provides the district court with four non-exclusive criteria to apply to the expert's reasoning or methodology: (1) whether the expert's concept is capable of being, and has been, tested; (2) whether it has been subjected to peer review; (3) what the known rate of error is; and (4) whether the technique and theory is generally accepted by the scientific community to which it belongs. *See Donnelly v. Ford Motor Co.,* 80 F.Supp.2d 45, 47 (E.D.N.Y. 1999) (citing *Daubert,* 509 U.S. at 593–94). Although the focus of the overall inquiry must be on principles and methodology and not on conclusions, "[i]f an opinion is based on 'a methodology' that is 'simply inadequate to support the conclusions reached, *Daubert* and Rule 702 mandate the exclusion of that unreliable opinion testimony.'" *In re Pfizer Inc. Sec. Litig.*, 819 F.3d 642, 665 (2d Cir. 2016) (quoting *Amorgianos v. Nat'l R.R. Passenger Corp.*, 303 F.3d 256, 266 (2d Cir. 2002)). After all, "nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence which is connected to existing data only by the *ipse dixit* of the expert. A court may conclude

that there is simply too great an analytical gap between the data and the opinion proffered." *Joiner,* 522 U.S. at 146.

ARGUMENT

I. The Court Should Preclude Dr. Pukenas from Opining that Dr. Weiner Did Not Engage in Overreporting or Exaggerating Findings Because Dr. Pukenas' Methodology Is Flawed

The core of the Pukenas Report is that Dr. Weiner did not engage in a pattern of overreporting or exaggerating findings because Dr. Weiner overreported certain injuries (herniations) while underreporting other conditions (degeneration). In particular, the Pukenas Report states:

> [I]n my review of Dr. Weiner's reports, I did not see evidence of a pattern of overreporting or exaggerating findings . . . . [T]o the extent I disagreed with Dr. Weiner, it was because, in nearly equal numbers, Dr. Weiner: (i) made findings that I would not have reported; or (ii) failed to make findings that I would have reported (for example, Dr. Weiner consistently failed to report findings suggesting degeneration relating to the facet joint—a set of conditions that could cause pain, particularly if aggravated by trauma).

(Pukenas Report at 1 fn.2). The Pukenas Report's methodology is flawed because Dr. Pukenas does not explain why systematically overreporting one type of finding—herniations—while systematically underreporting another type of finding—degeneration—negates a "pattern of overreporting or exaggerating findings." Dr. Pukenas simply assumes *ipse dixit* that the two cancel each other out. Dr. Pukenas—who has no understanding of New York's no-fault laws—does not understand how failing to report degeneration was part of the healthcare fraud scheme.

At trial, the Government intends to call a representative from Farmers Insurance to testify about insurers' claim processes. In particular, the representative will explain that because New York's no-fault laws only require insurers to reimburse medical treatments for injuries *caused* by

a car accident, insurers can deny coverage for medical treatments for degenerative conditions. The representative will further testify that when insurers receive an MRI report with findings of degeneration, insurers' ordinary practice is to refer the claim to a third-party physician to determine whether the injuries were causally related to the car accident (as opposed to degeneration). However, if findings of degeneration are intentionally omitted from MRIs, insurers will oftentimes not know to investigate causation. As a result, insurers will improperly pay for medical treatments that would otherwise be denied.

Dr. Weiner's failure to report degeneration is part-and-parcel of the charged healthcare fraud scheme. As the Court is aware, the Government's evidence at trial will show that Dr. Weiner falsified injuries in MRIs to allow referring physicians to conduct unnecessary medical treatments. Dr. Weiner's failure to report degeneration further helped referring physicians by ensuring that insurance companies would improperly pay for treatments of non-covered conditions—*i.e.*, age-related degeneration.

As such, the Court should preclude Dr. Pukenas from opining that Dr. Weiner did not engage in a pattern of overreporting or exaggerating findings because Dr. Weiner overreported (falsified) certain findings while underreporting (hiding) other findings. Dr. Pukenas' methodology of simply netting out the number of times Dr. Weiner overreported and underreported findings ignores that there is a pattern to Dr. Weiner's reports. Dr. Pukenas' methodology also ignores the implications of this pattern in a no-fault insurance system—namely, deceiving insurers into paying for medical treatments that they would otherwise deny. As a result, his opinion is not "the product of reliable principles and methods," and he has not "applied the principles and methods reliably to the facts of the case." Fed. R. Evid. 702.

II. The Court Should Preclude Dr. Pukenas' Opinion that His Level of Disagreement with Weiner "Was Consistent with that Which Is Reported in the Literature and in Line with [His] Own Experience as a Practitioner" Because He Has Failed to Show that It Is the Product of Reliable Principles and Methods

The Court should next preclude Dr. Pukenas from asserting that his level of disagreement with Dr. Weiner "was consistent with that which is reported in the literature and in line with [his] own experience as a practitioner," (Pukenas Report at 1 fn.2), because he has not shown that his opinion is the product of reliable principles and methods. A comparison of Dr. Coyne and Dr. Pukenas' findings shows the glaring differences in testimony. Dr. Coyne's reports set forth exactly how many times Dr. Coyne disagreed with Dr. Weiner and why: out of nearly 93 randomly selected MRI studies by Dr. Weiner, Dr. Coyne found that approximately 90 of the studies had false findings of herniations that were not present. Dr. Coyne will further testify that he has regularly conducted peer reviews of radiologists during his nearly 15 years as chairman of radiology for three different hospitals, and in that extensive experience, this overwhelming pattern of false findings of herniations is unprecedented.

By contrast, Dr. Pukenas does not identify or quantify the number of MRI studies by Dr. Weiner where Dr. Pukenas found false findings of herniations. Dr. Pukenas likewise provides no information about "his own experience as a practitioner," beyond the generic statement that he has "conduct[ed] peer reviews of other radiologists' work in both an academic and clinical setting." (Pukenas Report at 1). Tellingly, the Pukenas Report does not state how often Dr. Pukenas disagrees with other radiologists in peer reviews, or how often he sees other radiologists incorrectly identified herniations that were not present in peer reviews (the subject matter of this

case).[3] As such, the Pukenas Report offers nothing more than, "believe me, I'm a doctor," to support his methodology.

This is plainly insufficient under *Daubert.* "An anecdotal account of one expert's experience, however extensive or impressive the numbers it encompasses, does not by itself equate to a methodology, let alone one generally accepted by the relevant professional community." *Berk v. St. Vincent's Hosp. & Med. Ctr.*, 380 F. Supp. 2d 334, 354–56 (S.D.N.Y. 2005); *see Bell v. JPMorgan Chase Bank, N.A.*, No. 20CIV2468PGGSLC, 2023 WL 2772033, at *3 (S.D.N.Y. Apr. 4, 2023) ("In sum, it is not clear what 'facts or data' Dr. Tejwani considered in determining Plaintiff's prognosis. Nor has Plaintiff demonstrated that Tejwani's testimony about Plaintiff's prognosis would be 'the product of reliable principles and methods ... [that have been] reliably applied . . . to the facts of the case.' Accordingly, despite Dr. Tejwani's considerable experience as an orthopedist, there is not an adequate basis in the record to demonstrate that his proffered testimony concerning Plaintiff's long-term prognosis is admissible under Fed. R. Evid. 702 and *Daubert*.") (quoting Fed. R. Evid. 702)). "While the *Daubert* standard does not require that every detail of expert testimony be supported by academic literature, it does mandate that 'conclusions [be] supported by good grounds for each step in the analysis.'" *Berk*, 380 F. Supp. 2d at 354–56 (quoting *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 745 (3d Cir. 1994)).

Dr. Pukenas' misleading citations to several articles does not render his methodology any more reliable. A closer examination of these articles shows that they have nothing to do with the

[3] This is unsurprising given that the University of Pennsylvania—Dr. Pukenas' employer—would undoubtedly disagree that Dr. Pukenas' colleagues regularly falsely report herniations to patients. The Government is preparing to call senior members of the Perelman School of Medicine at the University of Pennsylvania to testify as rebuttal experts.

question in this case—how frequently radiologists incorrectly report herniations that are not present. The articles likewise admit that they suffer from severe, self-described design and practical restraints. For instance, Dr. Pukenas cites The Spine Journal for the proposition that "when different radiologists interpret the same MRI scan, their findings can differ up to 54.6% of the time." (Report at 4 (citing The Spine Journal 16 (2016) 42-48)). However, this article does not address how often radiologists incorrectly report herniations that are not present. Instead, the article, titled, "Comparison of Agreement of Cervical Spine Degenerative Pathology Findings in Magnetic Resonance Imaging Studies," deals solely with "inter-rater and intra-rater agreement of MRI findings between common *degenerative findings of the cervical spine*" (emphasis added)." The Spine Journal 16 (2016) 42-48. Similarly, Dr. Pukenas cites another article from The Spine Journal that "[i]n another study, in which 10 different radiologists read MRIs from the same patient, researchers found high levels of variability and high rates of interpretive errors in the reported interpretive findings." (Pukenas Report at 4 (citing The Spine Journal 17 (2017) 554-561)). However, this article again has no bearing on the question in this case—how often radiologists incorrectly identify herniations that are not present. Instead, the article discusses the opposite—how often radiologists fail to identify herniations that are present (*i.e.*, "false negatives").[4] Dr. Pukenas further ignores that the study's authors describe severe "study design and practical constraints" spanning *multiple* pages. As the study states:

> Several limitations of the current investigation exist due to study design and practical constraints. The first limitation is that because only a single MRI examination was performed at each of the 10 study MRI centers, the results reflect a single radiologist at each study center and may not be reflective of the overall performance of the MRI center. For this reason, the authors were unable to

[4] *See* The Spine Journal 17 (2017) 554-561 ("The high average interpretive miss rate of 43.6%±11.7 across the study examinations means that important pathologies are routinely *underreported*. For example, the study examinations demonstrated an average miss rate for disc herniation of 47.5%." (emphasis added)).

evaluate whether or not these findings were representative of the imaging centers selected for the study or generalizable to other MRI centers.

Second, the sample size and geographic distribution of the study centers needed to be restricted in this study for logistical reasons to ensure the centers were accessible to the patient and could all be visited within a short time frame, as well as to respect the limits of the patient's tolerance for repeated examinations.

Third, the authors selected a set of study centers employing a range of equipment types to reflect the variation present in the regional market of the subject. This distribution may deviate from the true distribution outside of the study area. Moreover, because many of the equipment types were only used for one or two of the examinations, there were not sufficient sample sizes to make statistically meaningful conclusions about the impact of MRI scanner type (eg, 0.3T vs. 1.5T vs. 3.0T) on the variability or interpretive error rates.

Fourth, for similar reasons as above, the study was unable to evaluate the correlation between variability or errors and examination cost or other characteristics that may have varied across study centers and radiologists.

Furthermore, the diagnostic variability and interpretive error rates observed in this study of a single patient may not be fully generalizable to all patient cohorts and pathologies. Using a single patient for the study limits the type and severity of pathology available for comparison. When selecting the single patient for this study, an effort was made to recruit a subject with a non-trivial number and range of pathologies present in the lumbar spine, which the authors believed would allow for a more concrete comparison and evaluation of the interpretive performance. As a result, this study design likely had some inherent bias toward detecting more false-negative interpretive errors than false-positives.

Because of these limitations, the authors did not attempt to identify or assess the relative importance of factors that explain the observed variability and errors across the 10 study examinations. However, potential reasons for the variability in the interpretation of the MRI examinations and prevalence of interpretive errors include the degree of specialization of the radiologist interpreting the MRI examination, the type of equipment and imaging sequences used at the study centers, and the nomenclature employed by the radiologists to describe and communicate abnormalities detected on the MRI examination. The authors did not attempt to train the radiologists at the 10 study centers on spinal nomenclature, as the study was designed to simulate what is currently occurring in the medical community where there is little agreement on the nomenclature used to describe many *spinal pathologies*. Moreover, the omission or inclusion of pathologic findings may vary based on community standards for a variety of reasons, including but not limited to the opinions of the referring physicians and the interpreting radiologists as to how distinct findings may be contributory to a patient's symptoms. The authors acknowledge that the potential reasons cited for

> the variability in the interpretation are speculative, and additional important factors may also be contributing to the observed variability.

Id. Lastly, although Dr. Pukenas cites another article for the proposition that "radiological reports should not be expected always to be complete and correct or be regarded as the only tool to identify, confirm, or exclude the diagnosis," the article does not quantify how often radiologists incorrectly report herniations that are not present. (Pukenas Report at 5 (citing Onder, O., Yarasir, Y., Azizova, A. et al., *Errors, discrepancies and underlying bias in radiology with case examples: a pictorial review*, Insights Imaging 12, 51 (2021)).

In sum, the Pukenas Report fails to identify or quantify the number of MRI studies by Dr. Weiner where Dr. Pukenas found false findings of herniations, fails to identify how often Dr. Pukenas sees false findings of herniations in his peer review of other radiologists' reports at the University of Pennsylvania, and relies on a small selection of articles that do not address the question in this case—how frequently radiologists falsely identify herniations that are present—and suffer from self-described design limitations. The Court should preclude Dr. Pukenas from asserting that his level of disagreement with Dr. Weiner "was consistent with that which is reported in the literature and in line with [his] own experience as a practitioner" because he has not shown that his opinion is the product of reliable principles and methods.

III. The Court Should Preclude Dr. Pukenas from Opining that Dr. Coyne Did Not Review So-Called "Clinical Data"

The Court should next preclude Dr. Pukenas from opining that Dr. Coyne's analysis is flawed because Dr. Coyne did not review so-called "clinical data," (Pukenas Report at 2), which was never produced to the Government until less than a month before trial on December 28, 2023. The Government has provided these records to Dr. Coyne, who states that they do not

change his opinions. The Court should accordingly preclude Dr. Pukenas from testifying that Dr. Coyne has not reviewed these materials.

To the extent that Dr. Pukenas still attempts to discuss this so-called "clinical data" for a different purpose, the Court should preclude him from doing so because the Pukenas Report misrepresents the underlying literature and the "clinical data" in this matter. The Pukenas Report cites a single article for the proposition that "[d]espite inherent variability in the structure and content of radiology reports, it has been shown that the addition of clinical information improves sensitivity of reporting, increasing from 38% to 84%, 67% to 73% and 38% to 52%." (Pukenas Report at 5 (J Med Radiat Sci 68 (2021) 60–74)). However, Dr. Pukenas omits that these three studies have nothing to do with the issue here—identifying herniations in MRIs. They instead discuss x-rays of the chest (38% to 84%),[5] x-rays of the foot (67% to 73%),[6] and CTs of the brain (38% to 52%).[7] The studies further conclude that access to clinical information either had *no effect* on the accuracy of MRIs[8] or "may not translate in the evaluation of other body parts or another imaging modality, such as CT or MRI."[9] Indeed, to the extent the article cited by Dr.

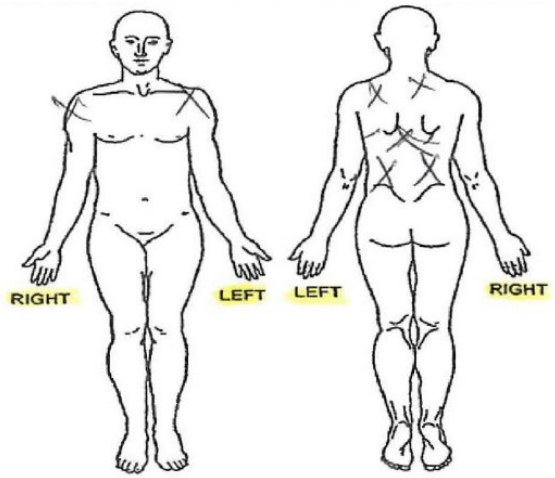
[5] Doubilet P, Herman PG. Interpretation of radiographs: effect of clinical history. *AJR Am J Roentgenol* 1981; 137(5): 1055–8.
[6] Sarwar A, Wu JS, Kung J, et al. Graphic representation of clinical symptoms: a tool for improving detection of subtle fractures on foot radiographs. *AJR Am J Roentgenol* 2014; 203(4): W429–33.
[7] Mullins ME, Lev MH, Schellingerhout D, Koroshetz WJ, Gonzalez RG. Influence of availability of clinical history on detection of early stroke using unenhanced CT and diffusion-weighted MR imaging. *AJR Am J Roentgenol* 2002; 179(1): 223–8.
[8] *See AJR Am J Roentgenol* 2002; 179(1): 223–8 ("Availability of a clinical history indicating that early stroke is suspected significantly improves the sensitivity for detecting strokes on unenhanced CT without reducing specificity. In contradistinction, the availability of such a history did not significantly improve the sensitivity for detecting stroke using diffusion-weighted MR imaging").
[9] *AJR Am J Roentgenol* 2014; 203(4).

Pukenas discusses MRIs of the spine, it relates to identifying vertebral artery ("VA") injury in the cervical spine, an injury so rare that it has an incidence of 0.5%, rather than herniations.[10]

Moreover, even if clinical information can improve the accuracy of reporting of herniations in MRIs, the clinical information involved in the academic literature is vastly different than the so-called "clinical data" allegedly available to Dr. Weiner. The academic literature involved detailed medical histories including, for example, "provider notes (including history and physical examination, progress notes and telephone encounter notes) immediately preceding the order requisition, and up to one year prior to the requisition date, from the institutional research patient data repository."[11] By contrast, the so-called "clinical data" allegedly available to Dr. Weiner is comically sparse. An example is incorporated as Exhibit A. The 7-page document consists of:

1) A copy of the patient's driver's license, Exhibit A at 1;
2) A questionnaire of whether the patient has had a prior surgery, MRI, medication, anemia or blood disorders, and various questions related to reproduction and sex such as date of last menstrual period, pregnancy, or contraceptives, *id.* at 3;
3) A questionnaire to determine whether the patient has metal in his/her body, *id.* at 4;
4) A picture of where the patient feels pain, *id.*; and

[10] Aubin ME, Eskander MS, Drew JM, et al. Identification of type 1: Interforaminal vertebral artery anomalies in cervical spine MRIs. *Spine* 2010; 35(26): E1610–E1611.
[11] Lacson R, Laroya R, Wang A, et al. Integrity of clinical information in computerized order requisitions for diagnostic imaging. *J Am Med Inform Assoc* 2018; 25(12): 1651–6.



5) Contact information for the patient and family, *id.* at 5-7.

Equating the clinical information discussed in the academic literature and the so-called "clinical data" allegedly available to Dr. Weiner is comparing apples to bowling balls. Dr. Coyne has reviewed the "clinical data" and they do not change his conclusions. This alone is sufficient to moot the discussion of "clinical data" during Dr. Pukenas' testimony. If Dr. Pukenas attempts to fashion an alternative reason to discuss the records, the fact that he misrepresents the underlying literature and dramatically overstates the information contained in this so-called "clinical data" is further ground to preclude such testimony under Rule 702.

IV. The Court Should Preclude Dr. Pukenas from Opining About an Unvalidated Method of Diagnosing Herniations

The Court should next preclude Dr. Pukenas from opining about an unvalidated method of diagnosing herniations in MRIs: "rounded" psoas muscles. As the Court is aware, the Government intends to show at trial that Dr. Weiner improperly changed the MRI report of another physician, Dr. Barbara Moriarty, to add herniations that were not present. The patient is referred to as "N.B." Dr. Moriarty will testify that she interpreted N.B.'s MRIs accurately and found that there was no evidence of injury to her lumbar spine. The evidence will further show that Weiner thereafter addended Dr. Moriarty's report—without telling her—to falsify

herniations. The Government will introduce text messages and phone records showing that Dr. Weiner changed the report after Bradley Pierre sent him a text message complaining about the normal finding and stating, "We need to fix these situations," to which Dr. Weiner responded, "It's unlikely a 16 year old has much going on But I'll look." Dr. Weiner then addended N.B.'s report to add the false herniations without making a single phone call. Both Dr. Coyne and Dr. Moriarty will testify that Dr. Weiner's additions were flagrantly false.

The Pukenas Report characterizes Dr. Weiner's changes to N.B.'s MRI report as "excellent" by relying on two deeply flawed methodologies. First, the Pukenas Report speculates that "Dr. Weiner's use of clinical data likely led him to find and report an issue that both Dr. Coyne and another radiologist in Dr. Weiner's office missed." (Pukenas Report at 2). Putting aside that Dr. Pukenas does not know what Dr. Weiner relied on when interpreting the study, Dr. Pukenas' description of this so-called "clinical data" is deeply misleading and does not support Dr. Weiner's false additions. *Supra* Section III. Second, Dr. Pukenas speculates about an unvalidated diagnostic method involving "rounded" psoas muscles to justify Dr. Weiner's additions:

> My review of the scan also detected an asymmetry in the psoas muscles surrounding the spine. In the scan, the left psoas muscle is oval-like in appearance whereas the right psoas muscle has a more rounded appearance. The rounded configuration of the psoas muscle can occur when the muscle is contracted, or flexed, and can occur when there is irritation and/or spasm from an injury. The additional finding of the right psoas muscle spasm supports the findings identified by Dr. Weiner.

(*Id.*) The Government has consulted with both Dr. Coyne and Dr. Moriarty—who collectively have almost 80 years of experience practicing diagnostic radiology—about whether "rounded" psoas muscles are a validated method of diagnosing herniations in the lumbar spine. They have never heard of or seen this method being used (and apparently neither has Dr. Weiner given that

he too never identified "rounded" psoas muscles in reports). Dr. Pukenas likewise does not cite a single scholarly article that "rounded" psoas muscles are a validated way of identifying herniations. For good reason. The fact that a psoas muscle is "rounded" says *nothing* about the cause. Asymmetry in the psoas muscles can be the result of many different reasons including, among others, the patient being tilted in the MRI machine, degenerative conditions such as scoliosis,[12] or trauma from any number of sources including athletic activity such as jumping, dancing, and running.[13] The only way to determine whether a herniation exists is to look at the disc.

Indeed, if Dr. Pukenas were correct that "roundedness" in the psoas muscles were a reliable way to identify herniations, then the psoas muscles of every other patient where Dr. Weiner diagnosed herniations should also look rounded. After all, every patient had the same clinical indication: "pain." However, there is no such pattern. Dr. Coyne has reviewed every MRI in which Dr. Weiner diagnosed the same type of herniation at the same disc levels for the nearly 100-patient sample. There is no pattern of "rounded" psoas muscles in these MRIs.

Dr. Pukenas' so-called "roundedness" theory is not an accepted or validated method of diagnosing herniations. Dr. Coyne and Dr. Moriarty will testify that they have never heard of such a method despite their nearly 80 years of practicing medicine. There are multiple causes of psoas muscle asymmetry or "roundedness" beyond herniations. And there is no consistent pattern of "roundedness" in the psoas muscles in any of the 61 times that Dr. Weiner identified

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[12] "Asymmetry of the cross-sectional area of paravertebral and psoas muscle in patients with degenerative scoliosis," Eur Spine J. 2013 Jun; 22(6): 1332–1338, available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3676542/

[13] "Osteopathic Manipulative Treatment: Muscle Energy and Counterstrain Procedure - Psoas Muscle Procedures," National Library of Medicine, available at https://www.ncbi.nlm.nih.gov/books/NBK560799/#:~:text=Psoas%20syndrome%20is%20a%20disorder,during%20walking%20and%20everyday%20activities.

the same type of herniations at the same disc levels for the nearly 100-patient sample. The only validated way to determine whether a herniation exists is to look at the disc. As such, Dr. Pukenas cannot show that his opinion regarding "roundness" is the product of reliable principles and methods.

V. The Court Should Preclude Dr. Pukenas from Opining About Irrelevant "Stylistic" Disagreements with Dr. Coyne

The Court should next preclude Dr. Pukenas from opining about irrelevant "stylistic" disagreements with Dr. Coyne. The questions for the jury are whether Dr. Weiner falsified herniations in MRI reports and whether these false findings were within the standard of care of radiologists. The Pukenas Report, on the other hand, consists almost entirely of nitpicking Dr. Coyne rather than discussing Dr. Weiner's reports. This is transparent exercise in misdirection. The fact that Dr. Pukenas disagrees with Dr. Coyne about immaterial aspects of Dr. Coyne's expert reports is irrelevant. This includes, for instance, Dr. Pukenas' criticism of Dr. Coyne's "reporting styles . . . as it relates to causation or etiology," (Pukenas Report at 3); "stylistic reporting differences" involving a "posttraumatic syrinx," (*id.*); and his description of "annular bulging" as "developmentally normal" (*id.* at 4).

Moreover, to the extent that Dr. Pukenas claims that these "stylistic" differences are evidence that reasonable radiologists can disagree, this is once again comparing apples to bowling balls. Dr. Coyne found that Dr. Weiner systematically reported false herniations that did not exist and failed to report degeneration that was present. This is not a criticism of Dr. Weiner's "reporting style." This is a criticism of the accuracy of his reports. Dr. Pukenas is free to opine, subject to establishing a reliable methodology and reliably applying that methodology to the facts of this case, whether reasonable radiologists could disagree about whether the herniations identified by Dr. Weiner are present. However, Dr. Pukenas may not confuse the jury

by opining about irrelevant topics such as "stylistic" differences and "reporting styles" among himself, Dr. Weiner, and Dr. Coyne.

VI. The Court Should Preclude Dr. Pukenas from Testifying Generally About Stylistic Differences Between Radiologists

The Court should further preclude Dr. Pukenas from testifying, more generally, about stylistic differences between radiologists. Like Dr. Pukenas' stylistic disagreements with Dr. Coyne, this too is irrelevant misdirection from the issues involved in this case. Moreover, to the extent that Dr. Pukenas' claims that there is "inherent variability in the structure and content of radiology reports," (Pukenas Report at 5), this again mispresents the underlying academic literature. The Pukenas Report cites the academic article, "How to Create a Great Radiology Report," for the proposition that "crafting a radiology report is a more artisanal, reflective, and creative process." (Pukenas Report at 5 (quoting RadioGraphics 2020; 40:1658–1670)). Dr. Pukenas omits that the article goes on to state:

> [T]here are certain key principles to reporting the imaging findings, impression, and recommendations that serve as a guide and promote careful consideration about how reports are understood. The findings section should emphasize short, informative, and factual observations while avoiding inappropriate interpretation, excessive use of terms of perception, and redundancy. The impression is the thoughtful synthesis of the meaning of the findings leading to a diagnosis, a differential diagnosis, and management recommendations. Creating a clear and impactful impression allows radiologists to provide the highest level of clinical care and direction but takes time and effort beyond simply restating the findings. The impression should use language that is understandable, memorable, and actionable.

RadioGraphics 2020; 40:1658–1670. The article further states that radiologists who use "templatized" reporting, such as all the radiologists at issue here, have a "checklist style of reporting" that "promotes consistent organization, which is valued by ordering providers and patients," and "facilitate[s] reporting the findings with brief observations, reserving the impression for the synthesis and meaning of the findings with actionable information." *Id.* Thus,

contrary to the Pukenas Report's *ipse dixit* statement that there is "inherent variability in the structure and content of radiology reports," (Pukenas Report at 5), the academic literature states that there are clear, agreed-upon principles for how to craft an MRI report. Furthermore, even if there is inherent variability in the *structure* and *style* of radiology reports, the academic literature does not state radiologists *inherently incorrectly identify herniations that are not present*.

VII. The Court Should Preclude Dr. Pukenas from Mischaracterizing Dr. Coyne's Testimony

The Court should next preclude Dr. Pukenas from mischaracterizing Dr. Coyne's testimony. The Pukenas Report makes several false and misleading statements about Dr. Coyne's reports. These include the following:

"Dr. Coyne's findings were inconsistent across the cases that he read more than once." (Pukenas Report at 2 fn.2). This is false. Dr. Coyne read the cases of six patients more than once and reached the same findings each time. (*Compare* Initial Report at 8 *with* Supplemental Report at 10 (Patient S.G.); *compare* Initial Report at 19-20 *with* Supplemental Report at 17 (Patient M.B.L); *compare* Initial Report at 15 *with* Supplemental Report at 23 (Patient V.R.); *compare* Initial Report at 9-10 *with* Supplemental Report at 6-7 (Patient N.D.); *compare* Initial Report at 18-19 *with* Supplemental Report at 6-7 (Patient S.B.); *compare* Initial Report at 20 *with* Supplemental Report at 13-14 (Z.J.)). There is not a single instance where Dr. Coyne disagreed with the finding of a herniation in one read but agreed in the other.

"In the case of the 16-year-old patient, N.B., with a herniated disc, Dr. Coyne appears to have relied on his general assessment that 'a herniated disc is an extremely rare finding in a 16-year-old patient.'" (Pukenas Report at 3). This is false. Dr. Coyne's Initial Report states that his review "consisted of a detailed initial assessment of all the images in each study and formulation of diagnostic radiology opinions." (Initial Report at 1).

"In the case of Patient S.Z., without any clinical history aside from what is provided in the radiology report, Dr. Coyne speculates that straightening of cervical lordosis 'may be positional and not from spasm.' Straightening of cervical lordosis may be secondary to pain, spasm, or positioning. There is no way to categorically deny any of these possibilities without the patient's clinical history." (Pukenas Report at 3 fn.3). This is false. Dr. Coyne is not "categorically denying" anything. Dr. Coyne, by his own words, states that the straightening of cervical lordosis "*may* be positional and not from spasm (emphasis added)." (Initial Report at 1).

"In other instances, Dr. Coyne criticizes Dr. Weiner for his use of certain terminology that has the same meaning as the term Dr. Coyne prefers. For example, for patient V.R., Dr. Coyne states that Dr. Weiner's read that the scan shows an 'annular tear' is incorrect and states that there is an 'annular fissure' present instead. This is semantics. A tear and a fissure describe the same condition." (Pukenas Report at 4). This is false. The three largest radiological associations in the country—the American Society of Spine Radiology ("ASSR"), American Society of Neuroradiology ("ASNR"), and the North American Spine Society ("NASS")—have all opined that that the proper terminology is annular fissure *precisely* because annular tear denotes traumatic etiology—that is, an injury caused by trauma:

> As far back as the 1995 NASS document, authors have recommended that such lesions be termed 'fissures' rather than 'tears,' primarily out of concern that the word 'tear' could be misconstrued as implying a traumatic etiology [9,30,45,46]. Because of potential misunderstanding of the term 'annular tear,' and consequent presumption that the finding of an annular fissure indicates that there has been an injury, the term 'annular tear' should be considered nonstandard and 'annular fissure' be the preferred term.

The Spine Journal 14 (2014) 2525-2545.

Dr. Pukenas is free to offer an opinion consistent with Rule 702 of the Federal Rules of Evidence. However, he is not allowed to mischaracterize the relevant literature, make assertions *ipse dixit*, and misstate Dr. Coyne's findings.

VIII. The Court Should Preclude Dr. Pukenas from Speculating About Dr. Weiner's Motivations for Falsely Identifying Herniations

The Court should lastly preclude Dr. Pukenas from speculating about Dr. Weiner's motivations for falsely identifying herniations. The Pukenas Report follows a clear pattern. First, Dr. Pukenas states that he disagrees with Dr. Weiner's findings—in this instance, because "Dr. Weiner reported a disc 'herniation' where I would have reported a disc 'bulge.'" (Pukenas Report at 4 fn.7). But then, Dr. Pukenas speculates to minimize the importance of the disagreement. Dr. Pukenas thus hypothesizes that this "difference may be the product of training," because while "[h]istorically, variable terms have been used to describe disk pathology, including herniation and bulging," it is only "[m]ore recently, there has been a movement towards using a standardized lexicon when describing disk pathology." (*Id*.).

Dr. Pukenas' opinion about why Dr. Weiner made false findings, that is, his state of mind, is inadmissible. First, Dr. Pukenas is factually incorrect that the move toward a standardized lexicon when describing disk pathology only occurred "[m]ore recently." The transition began over twenty years ago. In 2001, the three largest radiological associations in the country—the ASSR, the ASNR, and the NASS—published "detailed definitions of lumbar disc pathology" including that "bulging" is "not considered a form of herniation." SPINE Volume 26 (2001) 93-113. The ASSR, ASNR, and NASS provided additional clarity in 2014—nearly five years before the MRIs at issue here—when it revised "the distinction between disc herniation and asymmetrically bulging disc." The Spine Journal 14 (2014) 2525-2545. Dr. Weiner's

findings are at odds with the standards promulgated by the three largest radiological associations in the country years prior to the MRIs in this matter—and Dr. Pukenas knows it.

More significantly, Dr. Pukenas cannot offer expert opinion testimony about Weiner's reasoning or state of mind. "[O]pinions concerning state of mind are an inappropriate topic for expert opinion." *United States v. Phillips*, 22 Cr. 138 (LJL), 2023 WL 6620146, at *14 (S.D.N.Y. Oct. 10, 2023) (quoting *SEC v. Am. Growth Funding II, LLC*, 16 Civ. 828 (KMW) 2019 WL 1772509, at *1 (S.D.N.Y. Apr. 23, 2019), and collecting cases); *see also In re Rezulin Prod. Liab. Litig.*, 309 F. Supp. 2d, 531, 547 (S.D.N.Y. 2004) ("Inferences about the intent or motive of parties or others lie outside the bounds of expert testimony."); Fed. R. Evid. 704(b) ("In a criminal case, an expert witness must not state an opinion about whether the defendant did or did not have a mental state or condition that constitutes an element of the crime charged or of a defense. Those matters are for the trier of fact alone.").

Accordingly, the Court should preclude Dr. Pukenas from opining on Weiner's reasoning or state of mind in formulating false MRI studies.

CONCLUSION

For the foregoing reasons, the Court should grant the Government's motion in its entirety to preclude Dr. Pukenas' testimony.

Dated: New York, New York
January 5, 2024

Respectfully submitted,

DAMIAN WILLIAMS
United States Attorney
Southern District of New York

By: ____/s/_____
Mathew Andrews
Qais Ghafary
Michael Lockard
Assistant United States Attorneys
Southern District of New York

Exhibit A

Father of Minor

Nexray Medical Imaging, P.C., D/B/A

SOUL RADIOLOGY

IT'S NOT JUST THE SCAN, IT'S THE READ

Patient Name: N[redacted] B[redacted] Sex: Male Female

Birth Date: [redacted] SSN: [redacted] Marital Status: N/A

Cell Phone: [redacted] Work Phone: \ Home Phone: \

Address: [redacted] Apt. #:

City: [redacted] State: NY Zip: [redacted]

Parent/Guardian (if minor): [redacted]

Emergency Contact: [redacted] Relationship: father

Phone: [redacted]

[ ] SELF-PAY/NO INSURANCE/CORPORATE ACCOUNT

PRIMARY Insurance Co. Name: Phone:

Policyholder: DOB: SSN:

Policyholder's Employer:

Insurance ID: Group #: Relationship to Insured:

SECONDARY Insurance Co. Name: Phone:

Policyholder: DOB: SSN:

Policyholder's Employer:

Insurance ID: Group #: Relationship to Insured:

WORKERS COMPENSATION

Claim #: Accident Date:

Where accident occurred:

Employer Name: Phone:

Attorney's Name: Phone:

Address:

PERSONAL INJURY

[X] Auto [ ] Other Accident Date: ~~1/18/19~~ 1/18/19

Attorney's Name Phone:

Address:

Date 2 / 23 / 19 Patient Number _____

Name B [redacted] N [redacted] Age 16 Height 5'5 Weight 108
Last name First name Middle Initial

Date of Birth [redacted] Male ☐ Female ☑ Body Part to be Examined _____
month day year

Reason for Study and/or Symptoms _____

Technologist's Notes: _____

1. Have you had prior surgery or an operation (e.g., arthroscopy, endoscopy, etc.) of any kind? ☒ No ☐ Yes
   If yes, please indicate the date and type of surgery:
   Date ___/___/___ Type of surgery _____
   Date ___/___/___ Type of surgery _____
2. Have you had a prior diagnostic imaging study or examination (MRI, CT, Ultrasound, X-ray, etc.)? ☒ No ☐ Yes
   If yes, please list:

	Body part	Date	Facility
MRI		/ /	
CT/CAT Scan		/ /	
X-Ray		/ /	
Ultrasound		/ /	
Nuclear Medicine		/ /	
Other		/ /	

3. Have you experienced any problem related to a previous MRI examination or MR procedure? ☒ No ☐ Yes
   If yes, please describe: _____
4. Have you had an injury to the eye involving a metallic object or fragment (e.g., metallic slivers, shavings, foreign body, etc.)? ☒ No ☐ Yes
   If yes, please describe: _____
5. Have you ever been injured by a metallic object or foreign body (e.g., BB, bullet, shrapnel, etc.)? ☒ No ☐ Yes
   If yes, please describe: _____
6. Are you currently taking or have you recently taken any medication or drug? ☐ No ☒ Yes
   If yes, please list: antibiotics
7. Are you allergic to any medication? ☒ No ☐ Yes
   If yes, please list: _____
8. Do you have a history of asthma, allergic reaction, respiratory disease, or reaction to a contrast medium or dye used for an MRI, CT, or X-ray examination? ☒ No ☐ Yes
9. Do you have anemia or any disease(s) that affects your blood, a history of renal (kidney) disease, renal (kidney) failure, renal (kidney) transplant, high blood pressure (hypertension), liver (hepatic) disease, a history of diabetes, or seizures? ☒ No ☐ Yes
   If yes, please describe: _____

For female patients:

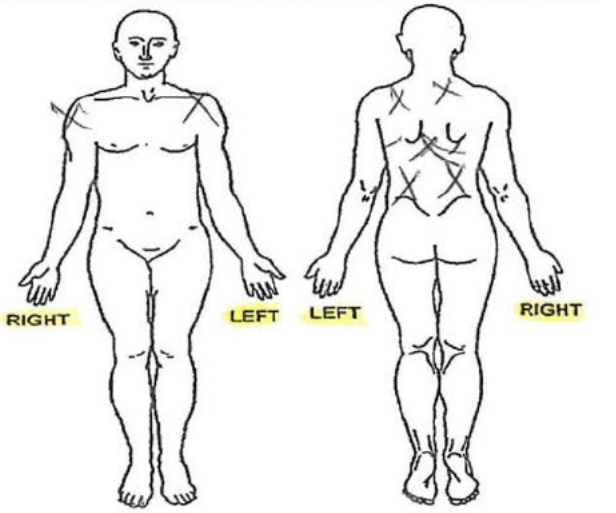
10. Date of last menstrual period: 2 / 03 / 19 Post menopausal? ☐ No ☐ Yes
11. Are you pregnant or experiencing a late menstrual period? ☒ No ☐ Yes
12. Are you taking oral contraceptives or receiving hormonal treatment? ☒ No ☐ Yes
13. Are you taking any type of fertility medication or having fertility treatments? ☒ No ☐ Yes
    If yes, please describe: _____
14. Are you currently breastfeeding? ☒ No ☐ Yes

WARNING: Certain implants, devices, or objects may be hazardous to you and/or may interfere with the MR procedure (i.e., MRI, MR angiography, functional MRI, MR spectroscopy). Do not enter the MR system room or MR environment if you have any question or concern regarding an implant, device, or object. Consult the MRI Technologist or Radiologist BEFORE entering the MR system room. The MR system magnet is ALWAYS on.

Please indicate if you have any of the following:

☐ Yes	☒ No	Aneurysm clip(s)
☐ Yes	☒ No	Cardiac pacemaker
☐ Yes	☐ No	Implanted cardioverter defibrillator (ICD)
☐ Yes	☐ No	Electronic implant or device
☐ Yes	☐ No	Magnetically-activated implant or device
☐ Yes	☒ No	Neurostimulation system
☐ Yes	☐ No	Spinal cord stimulator
☐ Yes	☐ No	Internal electrodes or wires
☐ Yes	☐ No	Bone growth/bone fusion stimulator
☐ Yes	☐ No	Cochlear, otologic, or other ear implant
☐ Yes	☒ No	Insulin or other infusion pump
☐ Yes	☐ No	Implanted drug infusion device
☐ Yes	☐ No	Any type of prosthesis (eye, penile, etc.)
☐ Yes	☐ No	Heart valve prosthesis
☐ Yes	☒ No	Eyelid spring or wire
☐ Yes	☒ No	Artificial or prosthetic limb
☐ Yes	☒ No	Metallic stent, filter, or coil
☐ Yes	☐ No	Shunt (spinal or intraventricular)
☐ Yes	☒ No	Vascular access port and/or catheter
☐ Yes	☐ No	Radiation seeds or implants
☐ Yes	☒ No	Swan-Ganz or thermodilution catheter
☐ Yes	☐ No	Medication patch (Nicotine, Nitroglycerine)
☐ Yes	☐ No	Any metallic fragment or foreign body
☐ Yes	☐ No	Wire mesh implant
☐ Yes	☐ No	Tissue expander (e.g., breast)
☐ Yes	☐ No	Surgical staples, clips, or metallic sutures
☐ Yes	☐ No	Joint replacement (hip, knee, etc.)
☐ Yes	☒ No	Bone/joint pin, screw, nail, wire, plate, etc.
☐ Yes	☒ No	IUD, diaphragm, or pessary
☐ Yes	☐ No	Dentures or partial plates
☐ Yes	☒ No	Tattoo or permanent makeup
☐ Yes	☐ No	Body piercing jewelry
☐ Yes	☐ No	Hearing aid *(Remove before entering MR system room)*
☐ Yes	☐ No	Other implant _____
☐ Yes	☐ No	Breathing problem or motion disorder
☐ Yes	☐ No	Claustrophobia

Please mark on the figure(s) below the location of any pain you are experiencing as a result of your accident



IMPORTANT INSTRUCTIONS

Before entering the MR environment or MR system room, you must remove all metallic objects including hearing aids, dentures, partial plates, keys, beeper, cell phone, eyeglasses, hair pins, barrettes, jewelry, body piercing jewelry, watch, safety pins, paperclips, money clip, credit cards, bank cards, magnetic strip cards, coins, pens, pocket knife, nail clipper, tools, clothing with metal fasteners, & clothing with metallic threads.

Please consult the MRI Technologist or Radiologist if you have any question or concern BEFORE you enter the MR system room.

NOTE: You may be advised or required to wear earplugs or other hearing protection during the MR procedure to prevent possible problems or hazards related to acoustic noise.

I attest that the above information is correct to the best of my knowledge. I read and understand the contents of this form and had the opportunity to ask questions regarding the information on this form and regarding the MR procedure that I am about to undergo.

Signature of Person Completing Form: [redacted] Date 2 / 23 / 19

Signature

Form Completed By: ☑ Patient ☐ Relative B [redacted], N [redacted]

Print name

Relationship to patient

Form Information Reviewed By: _____ _____

Print name Signature

☐ MRI Technologist ☐ Radiologist ☐ Other _____

Printed By : indhira2

Printed on : 02/06/2019

Patient Information

Personal Information			
First Name	N[redacted]	Middle Name	-
Last Name	B[redacted]	D.O.B	[redacted]
Gender	Female	Address	[redacted]
City	HOLLIS	State	NEW YORK
Cell Phone #	[redacted]	Home Phone	[redacted]
Work	-	Zip	[redacted]
Email	-	Extn.	-
Attorney	STEPHEN GHEE, ESQ.	Case Type	NoFault
Attorney Address	221-10 JAMAICA AVENUE; SUITE 106,QUEENS VILLAGE,,11428	Attorney Phone	718-464-6500
Case Status	OPEN	SSN	[redacted]

Insurance Information			
Policy Holder	[redacted]	Name	LIBERTY MUTUAL INS CO
Address	P.O. BOX 515097	City	LOS ANGELES
State	CALIFORNIA	Zip	90051-5097
Phone	800-225-2467	Fax	-
Contact Person	-	Claim File #	-
Policy #	[redacted]	WCB #	-

Accident Information			
Accident Date	01/18/2019	Plate Number	-
Report Number	-	Address	-
City	-	State	-
Hospital Name	-	Hospital Address	-
Date of Admission	-	Additional Patient	-
Describe Injury	-	Patient Type	Passenger

Employer Information			
Name	-	Address	-
City	-	State	-
Zip	-	Phone	-
Date of First Treatment	-	Chart #	-

Adjuster Information			
Name	-	Phone	-
Extension	-	Fax	-
Email	-		

Pharmacy Information			
Name	-	Address	-
City	-	State	-
Phone	-	Phone	-
Extension	-	Fax	-
Email	-		

Source : https://www.greenyourbills.com

DOB: [redacted] #68226

PATIENT NAME:	N[redacted] B[redacted]
TODAY'S DATE:	2/23/19
DATE OF ACCIDENT:	1/18/19
CASE TYPE:	MVA
PATIENT'S ROLE IN THE ACCIDENT:	PASS.
REFERRING DOCTOR:	MOSHOVOY
STUDY:	LSP MRI
STUDY:	
STUDY:	
STUDY:	

NEUPT

PREVIOUS SCANS

DATE:	**STUDY:**
DATE:	**STUDY:**
DATE:	**STUDY:**
DATE:	**STUDY:**
DATE:	**STUDY:**
DATE:	**STUDY:**
DATE:	**STUDY:**
DATE:	**STUDY:**
DATE:	**STUDY:**
DATE:	**STUDY:**

02/03/19
1:30PM

Nexray Medical Imaging, P.C., D/B/A

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WILLIAM A. WEINER DO., DABR*

PATIENT'S NAME [redacted] DATE OF BIRTH _____ DATE 02/05/19

HISTORY _____ REASON FOR EXAM _____

REFERRING PHYSICIAN _____ REFERRING PHYSICIAN'S SIGNATURE _____

INSURANCE Liberty mutual D.O.A. 1/18/2019 CLAIM # _____

MRI

	w/contrast
○ Cervical Spine	☐
○ Thoracic Spine	☐
○ Lumbar Spine	☒
○ Brain	☐
○ Pituitary	☐
○ Orbits	☐
○ IAC	☐
○ Soft Tissue Neck	☐
○ TMJ	☐
○ Pelvis	☐
○ Other _____	☐

Extremities	R	L	w/contrast
○ Shoulder	☐	☐	☐
○ Elbow	☐	☐	☐
○ Wrist	☐	☐	☐
○ Hand	☐	☐	☐
○ Hip	☐	☐	☐
○ Knee	☐	☐	☐
○ Ankle	☐	☐	☐
○ Foot	☐	☐	☐
○ Other _____			

MRA

	w/contrast
○ Brain (COW)	☐
○ Carotid	☐

MR Venogram

	w/contrast
○ Brain (MRV)	☐

Notes:
BUN/CREATINE is required for administration of IV contrast for patients 55 years and older

X-RAY

Skeletal
- ○ Skull
- ○ Cervical Spine
- ○ Thoracic Spine
- ○ Lumbar Spine
- ○ Pelvis
- ○ Bone Age
- ○ Sacrum/Coccyx

Extremities	R	L
○ AC Joints	☐	☐
○ SI Joints	☐	☐
○ Shoulder	☐	☐
○ Humerus	☐	☐
○ Elbow	☐	☐
○ Radius/Ulna	☐	☐
○ Wrist	☐	☐
○ Hip	☐	☐
○ Femur	☐	☐
○ Knee	☐	☐
○ Tibia/Fibula	☐	☐
○ Ankle	☐	☐
○ Hand	☐	☐
○ Heel/Calcaneus	☐	☐
○ Foot	☐	☐
○ Finger	☐	☐
○ Toe	☐	☐

ENT
- ○ Paranasal Sinuses
- ○ Nasopharynx
- ○ Nasal Bones
- ○ Facial Bones
- ○ Orbits
- ○ Soft Tissue Neck

Chest
- ○ Chest PA/LAT
- ○ Sternum
- ○ Ribs ☐R ☐L

Abdomen
- ○ Abdomen FLAT/UPRIGHT
- ○ Abdomen KUB
- ○ Other _____

ULTRASOUND

- ○ Aorta
- ○ Abdomen
- ○ Liver
- ○ Kidney/Bladder
- ○ Bladder
- ○ Prostate (Transpelvic)
- ○ Female Pelvis (Includes both trans-vaginal and trans-abdominal)
- ○ Scrotum
- ○ Venous-Lower Legs ○ Bilateral ☐R ☐L
- ○ Arterial-Lower Legs ○ Bilateral ☐R ☐L
- ○ Carotid
- ○ Soft Tissues MSK
- ○ Other _____

FILM/CD REQUEST

Request Film Copies
○ YES ○ NO

Request CD Copies
○ YES ○ NO

CT SCAN

	w/contrast
○ Brain	☐
○ Petrous Bone	☐
○ Sinus	☐
○ Soft Tissue Back	☐
○ Cervical Spine	☐
○ Thracic Spine	☐
○ Lumbar Spine	☐
○ Sacrum/Couyx	☐
○ Bone Pelvis	☐
○ Chest	☐
○ Abdomen & Pelvis	☐
○ Abdomen only	☐
○ Pelvis only	☐
○ Extremity (Please specify) _____	☐

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